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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/524,905

02/17/2005

Jung-hoa Kim

4464-116 US

1981

7590

09/23/2008

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EXAMINER

KARLS, SHAY LYNN

ART UNIT

PAPER NUMBER

3723

MAIL DATE

DELIVERY MODE

09/23/2008

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/524,905	<b>Applicant(s)</b> KIM, JUNG-HOA	
	<b>Examiner</b> Shay L. Karls	<b>Art Unit</b> 3723	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 09 July 2008.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1 and 3 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1 and 3 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                       | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | Paper No(s)/Mail Date. _____                                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>5/15/08</u> .   | 6) <input type="checkbox"/> Other: _____                          |

**DETAILED ACTION*****Continued Examination Under 37 CFR 1.114***

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 7/9/08 has been entered.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

**Claim 1 is rejected under 35 U.S.C. 103(a) as being unpatentable over Mikkelsen (USPN 3471889) in view of Gould (USPN 3839763).**

Mikkelsen teaches a brush comprising a core (figure 1 and 2) having a plurality of recesses (portion between elements 3 on figure 1 and portion between elements 13 on figure 2) formed at a circumference thereof along an axial direction with a predetermined distance. There is a wing (3 or 13) formed between the recesses. The core receives brush rings (1) to form a rotary brush (abstract). There is further a fixing means (4 and 17) attached to the core to secure the brush rings. Mikkelsen teaches all the essential elements of the claimed invention however fails to teach the exact type of brush ring being used. Gould teaches a rotary brush with brush rings (12) surrounding a core (28). The brush rings comprise washing threads (18) bent at a

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middle portion therefore and fixed by close contact between adjacent rings (col. 2, lines 56-60).

There is additionally a spacer (31) located between each brush ring on the core (claim 2). It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the brush rings and spacers of Gould on the core of Mikkelsen since Gould's brush rings provide a replaceable brush unit of the above nature characterized by its simplicity, ruggedness, low cost, high reliability and ease of construction and assembly (col. 1, lines 49-52). Further when the brush rings of Gould are used on Mikkelsen's core, it is clear that the bent portions are going to fully surround the core, thus the bent portions will be located adjacent the recessed portions as well as adjacent the wings. Additionally, the structure of Mikkelsen and Gould's brush rings appear to be essentially the same and therefore they are considered to be equivalent structures known in the art, which can be interchangeable. Further, Mikkelsen fails to teach that the recesses are v-shaped. The recesses of Mikkelsen are essentially u-shaped. It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the shape of the recess so that it is v-shaped since applicant has not disclosed that v-shape provides an advantage, is used for a particular purpose, or solves a stated problem. One of ordinary skill in the art, furthermore, would have expected Applicant's invention to perform equally well with either the u-shape as taught by Mikkelsen or the claimed v-shape because both shapes allow the washing rings to fit over the core and help to position the rings on the core equally well. Therefore, it would have been obvious to one of ordinary skill in the art to modify Mikkelsen to obtain the invention as specified in claim 1.

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**Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Mikkelsen ('889) and Gould ('763) as applied to claim 1 above and further in view of Hundebol (USPN 4518452).**

Mikkelsen and Gould teach all the essential elements of the claimed invention however fail to teach that the fixing means comprises a supporter formed at one end of the core and fastening member fastened to the other end of the core. Hundebol teaches a rotary brush comprising a core surrounded by brush rings. The brush rings are securely attached to the core by a fixing means comprising a supporter (13, 14) which projects radially outward from one end of the core and a fastening member (7, 11) attached to the other end of the core. It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the fixing means of Mikkelsen so that it comprises a supporter and a fastening member so that the brush rings are held tightly and firmly locked on the core (col. 3, lines 10-20).

### ***Response to Arguments***

Applicant's arguments filed 7/9/08 have been fully considered but they are not persuasive.

The applicant argues that Gould does not teach or suggest washing threads bent at a middle portion thereof, wherein the bent portions are fixed by close contact between adjacent rings. The applicant also argues that Gould fails to teach that the bent portions of the washing threads are inserted into recesses formed at a circumference of the core. In response, it is clear from figure 3 of Gould that the washing threads are bent at a middle portion thereof. Also, the bent portions can be considered to be fixed by close contact between adjacent rings since the rings will not move when positioned on the core. The rings and spacers are positioned in close

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contact to each other as shown in figure 3. This continuous contact between the rings and spacers prevents the bent portions of the washing threads secured in the ring from moving longitudinally along the core or from even becoming angled with respect to an axis perpendicular to the longitudinal axis of the core. With regards to the argument that the bent portion are not inserted into the recesses, it is clear that when the brush rings of Gould are modified to fit on the core of Mikkelsen, a portion of the bent portions of the washing threads will be located in the recesses. The bent portions extend completely around the circumference of the ring and therefore, no matter how the ring is positioned on the core, the bent portions will be located adjacent the recesses and also located adjacent the rings.

The applicant argues that the spacers and fixing rings of Gould do not provide the advantages of the present invention however, the fact that applicant has recognized another advantage which would flow naturally from following the suggestion of the prior art cannot be the basis for patentability when the differences would otherwise be obvious. See *Ex parte Obiaya*, 227 USPQ 58, 60 (Bd. Pat. App. & Inter. 1985).

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Shay L. Karls whose telephone number is 571-272-1268. The examiner can normally be reached on 7:00-4:30 M-W.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Joseph Hail can be reached on 571-272-4485. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Shay L Karls/  
Primary Examiner, Art Unit 3723